

ABSTRACT

A permanent protective semiconductor die coating made from a polymer that is fully curable through exposure to ultra violet light. A mixture of polymer resin and a photoactive compound is applied to the die and then cured through exposure to ultraviolet light to form the protective coating. In one preferred embodiment, the polymer resin is a phenol-formaldehyde epoxy resin and the photoactive compound is CD1011 (marketed under the brand name SARTOMER[®]). The coating may be applied as a thin protective film, such as a passivation layer, or as a thicker encapsulant used for semiconductor device packages. Such film coatings exhibit reduced film shrinkage and lower film stresses while maintaining mechanical properties comparable to polyimide film coatings.